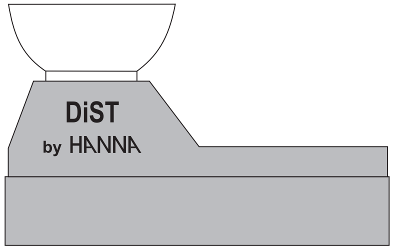
Instruction Manual

DiST® 7 & DiST® 8

EC/TDS & Temperature meters



HANNA instruments®

www.hannainst.com

WARRANTY

DiST® 7 & DiST® 8 are warranted for one year against defects in workmanship and materials when used for their intended purpose and maintained according to instructions. This warranty is limited to repair or replacement free of charge. Damages due to accident, misuse, tampering or lack of prescribed maintenance are not covered. If service is required, contact the dealer from whom you purchased the instrument. If under warranty, report the model number, date of purchase, serial number and the nature of the failure. If the repair is not covered by the warranty, you will be notified of the charges incurred. If the instrument is to be returned to Hanna Instruments, first obtain a Returned Goods Authorization Number from the Customer Service department and then send it with shipment costs prepaid. When shipping any instrument, make sure it is properly packaged for complete protection.

All rights are reserved. Reproduction in whole or in part is prohibited without the written consent of the copyright owner.

Hanna Instruments reserves the right to modify the design, construction and appearance of its products without advance notice.

Dear Customer,
Thank you for choosing a Hanna product.
Please read carefully this instruction manual before using the meter.
If you need additional technical information, do not hesitate to e-mail us at tech@hannainst.com.
These instruments are in compliance with the CE directives.

PRELIMINARY EXAMINATION

Remove the instrument from the packing material and examine it carefully. If any damage has occurred during shipment, immediately notify your Dealer or the nearest Hanna Customer Service Center.

Each meter is supplied complete with:

- Calibration solution, 20 mL sachet
  HI 70031 (1413 µS/cm) for **DiST® 7**
  HI 70030 (12.88 mS/cm) for **DiST® 8**
- 4 x 1.5V AA batteries
- Instruction manual

Note: Conserve all packing material until the instrument has been observed to function correctly. Any defective item must be returned in its original packing.

GENERAL DESCRIPTION

DiST® 7 and **DiST® 8** are portable EC/TDS and temperature meters specially designed for analytical field applications.

These meters provide fast, accurate, on-the-spot measurements, with a unique stability indicator right on the LCD.

All EC/TDS readings are automatically temperature compensated (ATC), and temperature values can be displayed in °C or °F units.

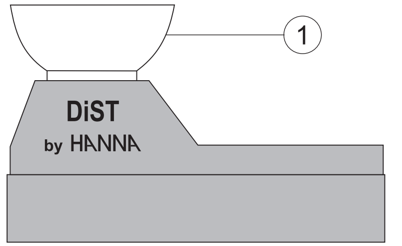
The EC/TDS conversion factor (CONV) is selectable by the user, as well as the temperature compensation coefficient b (BETA).

The meters can be easily calibrated at one point.

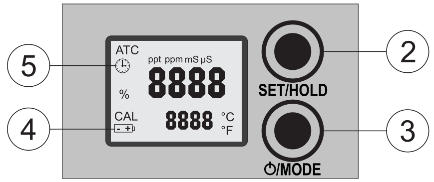
A low battery symbol warns the user when the batteries are to be replaced. In addition, the Battery Error Prevention System (BEPS) automatically turns the meter off for avoiding erroneous readings caused by low voltage level.

The built-in temperature and conductivity sensors are protected inside the cell cup.

FUNCTIONAL DESCRIPTION



TOP VIEW



1. Cell cup
2. SET/HOLD button
3. ON/OFF/MODE button
4. Low battery indicator
5. Stability indicator

SPECIFICATIONS

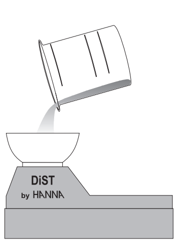
Range	0.0 to 60.0°C / 32.0 to 140.0°F
DiST 7	0 to 3999 µS/cm / 0 to 2000 ppm
DiST 8	0.00 to 20.00 mS/cm / 0.00 to 10.00 ppt
Resolution	0.1°C / 0.1°F
DiST 7	1 µS/cm / 1 ppm
DiST 8	0.01 mS/cm / 0.01 ppt
Accuracy (@20°C/68°F)	±0.5°C / ±1°F ±2% f.s. (EC/TDS)
Typical EMC Deviation	±0.5°C / ±1°F ±2% f.s. (EC/TDS)
Temperature Compensation	Automatic, with β adjustable from 0.0 to 2.4%/°C
TDS Factor	Adjustable from 0.45 to 1.00 (CONV)
Calibration	Automatic, 1 point
Calibration Solutions	
DiST 7	**HI 7031** (1413 µS/cm) **HI 7032** (1382 ppm with CONV=0.5) **HI 70442** (1500 ppm with CONV=0.7)
DiST 8	**HI 7030** (12.88 mS/cm) **HI 70038** (6.44 ppt with CONV=0.5 or 9.02 ppt with CONV=0.7)
Environment	0 to 50°C (32 to 122°F); RH 100%
Battery Type	4 x 1.5V AA
Battery Life	Approx. 2000 hours of use
Auto-off	After 8 minutes of non-use
Dimensions	120 x 53 x 81 mm (4.7 x 2.1 x 3.2”)
Weight	205 g (7.2 oz)

OPERATIONAL GUIDE

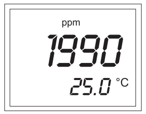
To turn the meter on and check the battery status

Press and hold the MODE button for 2-3 seconds. All the used segments of the LCD will be visible for a few seconds, followed by a percent indication of the remaining battery life (eg. % 100 BATT).

Taking measurements



Rinse and fill the cell cup with the solution to be tested.
Select either EC or TDS mode with the SET/HOLD button.
The measurements should be taken when the stability indicator on the top left of the LCD disappears.
The EC (or TDS) value automatically compensated for temperature variations, is shown on the LCD together with the temperature of the sample.



To change the temperature unit

To change the temperature unit (from °C to °F), from measurement mode press and hold the MODE button until TEMP and the current temperature unit are displayed on the lower LCD (eg. TEMP °C).
Use the SET/HOLD button to change the temperature unit, and then press the MODE button twice to return to normal measurement mode.

To freeze the display

Press and hold the SET/HOLD button until "HOLD" appears on the secondary display.
Press either button to return to normal mode.

To turn the meter off

Press the MODE button while in normal measurement mode. OFF will appear on the lower part of the display. Release the button.

Notes

- Before taking any measurement make sure the meter has been calibrated.
- If measurements are taken in different samples successively, rinse the cell cup thoroughly with water, and then with some of the sample to be measured.

CALIBRATION

For better accuracy, frequent calibration of the instrument is recommended. In addition, the instrument must be recalibrated whenever:

a) After testing aggressive chemicals.
b) Where high accuracy is required.
c) At least once a month.

To change the TDS factor (CONV) and the temperature compensation coefficient β (BETA)

- From measurement mode, press & hold the MODE button until TEMP and the current temperature unit are displayed on the lower LCD (eg. TEMP °C).
- Press the MODE button again to show the current conversion factor (eg. 0.50 CONV).
- Use the SET/HOLD button to change the value.
- Press the MODE button to show the current temperature compensation coefficient β (eg. 2.1 BETA).
- Use the SET/HOLD button to change the value.
- Press the MODE button to return to normal mode.

Calibration procedure

- From measurement mode, press & hold the MODE button until CAL is displayed on the lower LCD.
- Release the button and fill the cell cup with the proper calibration solution: for example, use **HI 7031** (1413 µS) for **DiST 7** and **HI 7030** (12.88 mS/cm) for **DiST 8**.
- Once the calibration has been automatically performed, the LCD will display "OK" for 1 second, then the meter will return to normal measurement mode.
- Since there is a known relationship between EC and TDS readings, it is not necessary to calibrate the meter in TDS. If the TDS factor is either 0.5 or 0.7, the meter will allow a direct calibration in ppm by using the Hanna calibration solutions listed in the specifications table.

The CAL tag on the LCD means that the meter is calibrated.

To reset to the default calibration

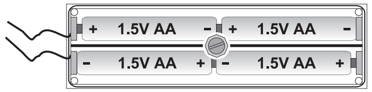
To clear a previous calibration, press the MODE button after entering the calibration mode. The lower LCD will display "ESC" for 1 second, then the meter will return to normal measurement mode.
The CAL symbol on the LCD will disappear and the meter will be reset to the default calibration.

BATTERY REPLACEMENT

The meter displays the remaining battery percentage every time it is switched on. When the battery level is below 5%, the battery symbol on the bottom left of the LCD lights up to indicate a low battery condition. The batteries must be immediately replaced. Moreover, if the battery level is too low to ensure reliable reading, the Battery Error Prevention System (BEPS) will automatically turn the meter off.

To change the batteries, remove the 4 screws located on the bottom of the meter.

Remove the screw and the washer in the battery compartment and carefully replace the 4 batteries located in the compartment, while paying attention to their polarity.



Replace the washer and tighten the screw in the compartment; replace the bottom, ensuring that the gasket is in place before tightening the screws.

Batteries should only be replaced in a non-hazardous area using the battery type specified in this instruction manual.

Recommendations for Users

Before using this product, make sure that it is entirely suitable for the environment in which it is used. Operation of this instrument in residential areas could cause unacceptable interferences to radio and TV equipment. Any variation introduced by the user to the supplied equipment may degrade the instrument's EMC performance.
To avoid electrical shock, do not use this instrument when voltages at the measurement surface exceed 24 Vac or 60 Vdc. To avoid damages or burns, do not perform any measurement in microwave ovens.

CE DECLARATION OF CONFORMITY

HANNA instruments

CE

DECLARATION OF CONFORMITY

We

Hanna Instruments Italia Srl
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ITALY

herewith certify that the EC/TDS & temperature meters

DiST 7 and **DiST 8**

have been tested and found to be in compliance with EMC Directive 89/336/EEC and Low Voltage Directive 73/23/EEC according to the following applicable normatives:

EN 50082-1: Electromagnetic Compatibility - Generic Immunity Standard
IEC 801-2 Electrostatic Discharge
IEC 801-3 RF Radiated

EN 50081-1: Electromagnetic Compatibility - Generic Emission Standard
EN 55022 Radiated, Class B

EN61010-1: Safety requirements for electrical equipment for measurement, control and laboratory use

Date of Issue: 22.05.2001

A.Marsilio - Technical Director
On behalf of
Hanna Instruments S.r.l.

ACCESSORIES

HI 70030P	12.88 mS/cm solution, 20 mL sachet, 25 pcs
HI 70031P	1413 µS/cm solution, 20 mL sachet, 25 pcs
HI 70032P	1382 ppm solution, 20 mL sachet, 25 pcs
HI 70038P	6.44 ppt solution, 20 mL sachet, 25 pcs
HI 70442P	1500 ppm solution, 20 mL sachet, 25 pcs
HI 7030M	12.88 mS/cm solution, 230 mL bottle
HI 7031M	1413 µS/cm solution, 230 mL bottle
HI 7032M	1382 ppm solution, 230 mL bottle
HI 7038M	6.44 ppt solution, 230 mL bottle
HI 70442M	1500 ppm solution, 230 mL bottle